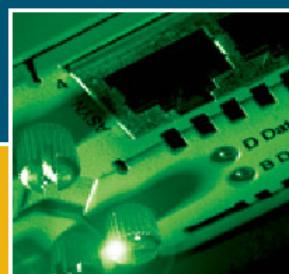


# AT-RG624/634

## USER MANUAL



**Allied Telesyn**  
Simply connecting the IP world

## **AT-RG624/634 Series - User Manual**

**This User Manual covers the following products:**

- i) **AT-RG624**
- ii) **AT-RG634**

**For a description of detailed functionality please refer to the Reference Manual. For installation and safety instructions please refer to this User Manual.**

Document Number M613-00003-01 REV A2

Copyright © 2004 Allied Telesis KK

All rights reserved. No part of this publication may be reproduced without prior written permission from Allied Telesis.

Allied Telesis reserves the right to make changes in specifications and other information contained in this document without prior written notice. The information provided herein is subject to change without notice. In no event shall Allied Telesis be liable for any incidental, special, indirect, or consequential damages whatsoever, including but not limited to lost profits, arising out of or related to this manual or the information contained herein, even if Allied Telesis has been advised of, has known or should have known, the possibility of such damages.

All trademarks are the property of their respective owners.

# Contents

CHAPTER 1. IMPORTANT SAFETY INSTRUCTIONS .....	2
Conditions of use .....	5
Product care .....	6
Emission Statement .....	7
Manual version .....	7
About this manual .....	7
CHAPTER 2. CONTENTS OF THE PACKAGE .....	8
CHAPTER 3. WHAT CAN THE AT-RG624/634 DO FOR YOU? .....	9
CHAPTER 4. PRODUCT DETAILS .....	10
Top view of unit .....	10
Rear view of unit .....	12
CHAPTER 5. TELEPHONES AND CABLES .....	13
POTS Telephone and Fax Operation (AT-RG634 only) .....	13
Telephone cord and UTP cable .....	14
CHAPTER 6. INSTALLING THE AT-RG624/634 .....	15
Installation .....	15
CHAPTER 7. CONNECTING THE AT-RG624/634 .....	17
Connecting the PSTN telephone ports (AT-RG634 only) .....	17
ADSL cable connection .....	18
LAN cable connection .....	18
Disconnecting power supply .....	19
Notice about functions and services (AT-RG634 only) .....	19
APPENDIX A: TROUBLESHOOTING .....	20
LED indications .....	20
Fault finding .....	21
APPENDIX B: TECHNICAL SPECIFICATIONS .....	23
AT-RG624 Product Specifications .....	23
AT-RG634 Product Specifications .....	24
APPENDIX C: CONTACT INFORMATION .....	25

## I. IMPORTANT SAFETY INSTRUCTIONS



**Please observe the following instructions, non-observance could lead to serious injury or even death, through fire or electric shock**



**Save these instructions**

### Do not open the unit

Do not open this product except when there is a specific indication in the manual. To prevent ELECTRIC shock, do not remove the cover.

This unit contains HAZARDOUS VOLTAGES and should only be opened by a trained and qualified technician. To avoid the possibility of ELECTRIC SHOCK, disconnect electric power to the product before connecting or disconnecting the LAN cables.

**Figure 1: Do not open**



### Lightning

**DANGER: DO NOT WORK on equipment or CABLES during periods of LIGHTNING ACTIVITY to avoid ELECTRIC SHOCK.**

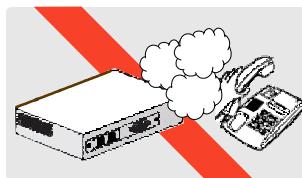
**Figure 2: Do not touch during a storm**



## Gas Leak

Do not use the telephone to report a gas leak in the vicinity of the leak.

**Figure 3: Gas Leak**



## Avoid harmful substances

Be careful not to drop water or any other harmful substance onto the product. This could lead to fire or electric shock. If water or other substances enter the unit, unplug the power and please contact your support centre or sales stores. Do not use this product near water for example near a bathtub, washbowl, kitchen sink, laundry tub in a wet basement or near a swimming pool.

**Figure 4: Harmful substances**



## Do not cover air vents

Air vents must not be blocked and must have free access to the ambient air for cooling to prevent fire caused by excessive heating.

**Figure 5: Do not cover**



## Do not place in a wet, dusty, smoky or steamy environment

To avoid the possibility of ELECTRIC SHOCK or FIRE caused by a short in internal circuits, do not place the device in any of the above listed environments.

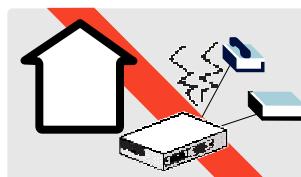
**Figure 6: Pay attention to environmental conditions**



## Do not use outside

To avoid the risk of electrical shock or fire, this device, connecting peripherals and cables, should not be used in an outside environment.

**Figure 7: Do not use outside**



## Do not use with non-standard plugs or wiring

This could lead to fire, only use with industry standard plugs and wiring suitable for your territory.

**Figure 8: Do not use unsuitable plugs**



## Unplug when installing or moving

Unplug to avoid the risk of electric shock.

**Figure 9: Unplug**



## Do not damage the power cable

This could lead to fire or electric shock.

**Figure 10: Do not damage power cable**



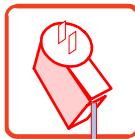
Take care when handling the power cable and plug:

- Do not strain the power cable
- Do not place near a heater
- Unplug the power cable using the plug

## Use the power adapter supplied

Only the power adapter supplied with this unit is guaranteed to function correctly with this unit.

**Figure 11: Only use the power adapter supplied with this unit**



## Conditions of use

### Do not use or store the device:

- In direct sunlight
- Near a heater or in a hot place
- Where there could be a sudden temperature change
- In a damp place or near a liquid such as water. Humidity must be less than 80%
- In areas subject to a lot of vibration
- In dusty and/or carpeted areas
- In the presence of corrosive gases

**Figure 12: Notice of use**



### Avoid static shock

This product contains parts that are sensitive to static shock. Please avoid touching interface connectors with bare hands.

**Figure 13: Static shock danger**



## Handling

Do not drop the unit, handle with care.

**Figure 14: Handling**



## Product care

### Cleaning

Keep the product free from dust and maintain in a clean condition. Unplug before cleaning.

**Figure 15: Unplug before cleaning**



### Clean the device with a dry, soft cloth

In case of heavy dirt, clean using a soft, damp cloth with a neutral detergent then dry with a soft cloth.

**Figure 16: Cleaning procedures**



### Do not use following materials for cleaning

Do not use oil, cleanser, thinner, petrol, wax, boiled water and powdered soap (please follow the instructions when you use a chemical duster).

**Figure 17: Do not use thinner**



## **Attention**

All the information in this manual is property of Allied Telesys KK, please do not copy or reproduce all or part of this manual without permission. The company may change or revise all or part of this manual. It may also change the specification of the product for purposes of improvement without notice.

## **Emission Statement**

CE Marking Warning: This is a class B product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Please install and use it in accordance with this user manual.

## **Manual version**

June 2004 Rev. A2

## **About this manual**

Thank you for choosing the AT-RG624/634 Series Residential ADSL Gateway.

Please read this manual carefully and use the device correctly.

Please see below for the meaning of the icons used in this manual.

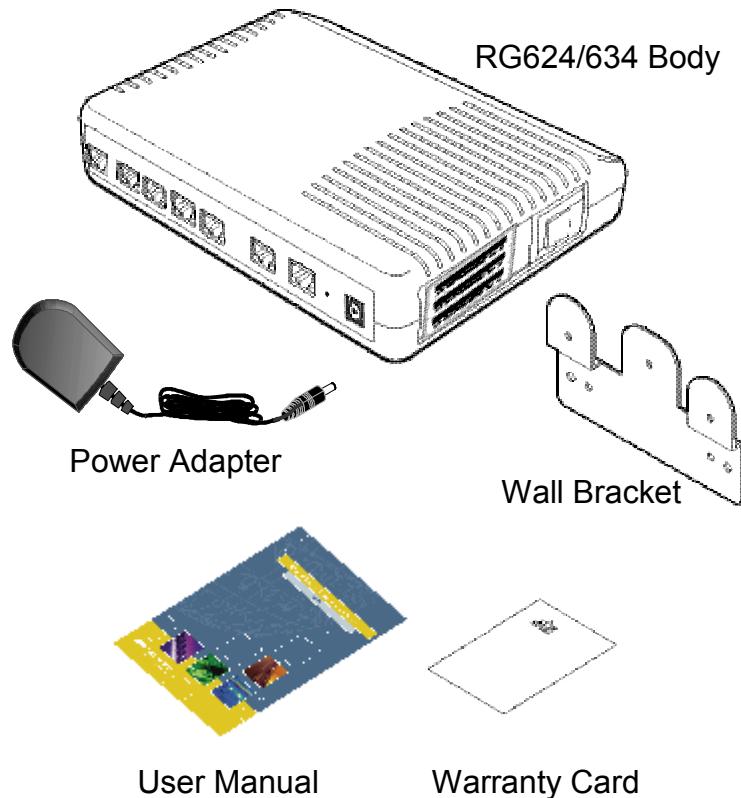
“The device”, “This product”, “AT-RG624”, “AT-RG634”, “RG624”, or “RG634” all refer to the Residential ADSL Gateway unit.

**Table I: Icons**

Icon	Meaning
	Useful information
	Indication of risk of a serious injury and/or damage to the environment
	As above
	Indication of reference page and information

## 2. Contents of the package

Figure 18: Contents of the package



(Notice) The package does not contain screws.

The following items are included with each AT-RG624/634. Contact your sales representative if any items are damaged or missing.

- One AT-RG624/634
- One AC/DC power adapter
- One wall bracket
- One AT-RG624/634 user manual
- One warranty card

### 3. What can the AT-RG624/634 do for you?

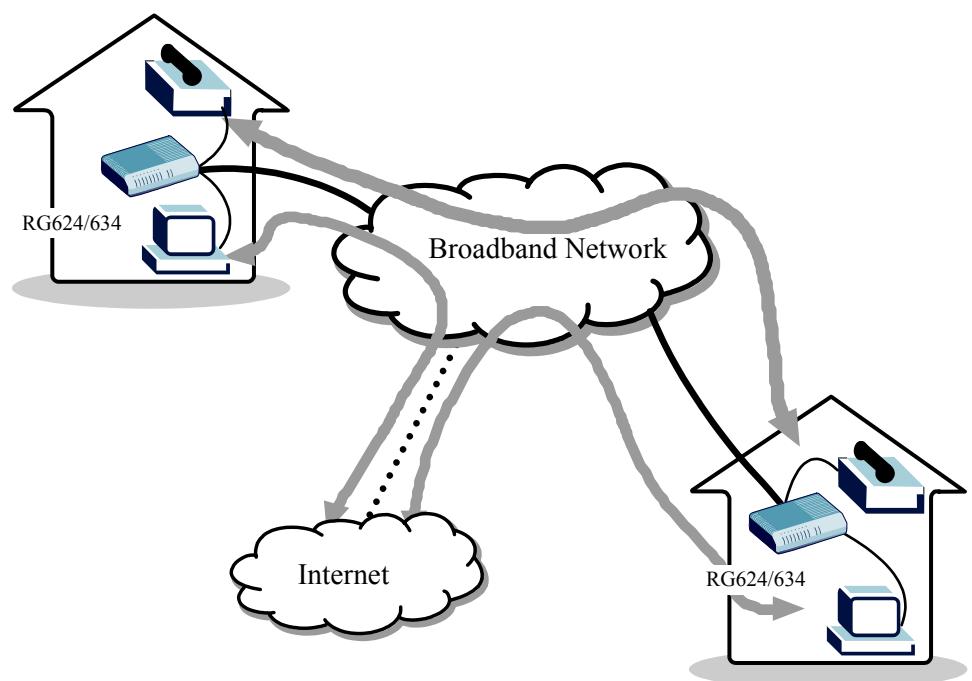
The AT-RG624/634 is Customer Premise Equipment (CPE) designed for installation in a customer residence, it interfaces with new generation fibre/copper networks designed to support broadband communications.

Using this intelligent equipment, called a "residential gateway", you can use broadband integrated services for telephony, Internet and Internet Video.

The ADSL residential gateway is fitted with a number of ports for connection of telephones, faxes, PC's and a set top box for TV.

Using the internal Ethernet router you can easily build a firewall-protected Local Area Network (LAN) in your home supporting multiple PC's as well as a set top box for TV/video services (see figure below).

**Figure 19: LAN connections**



## 4. Product Details

### Top view of unit

Figure 20: Top view AT-RG624

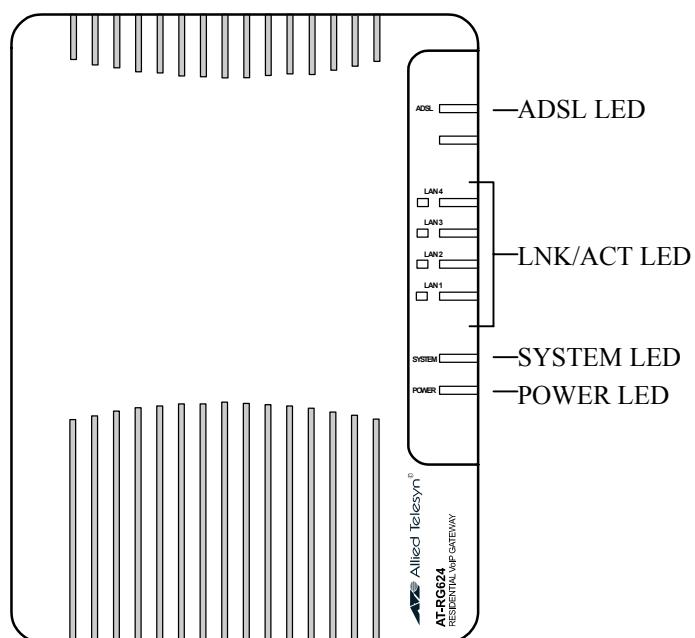
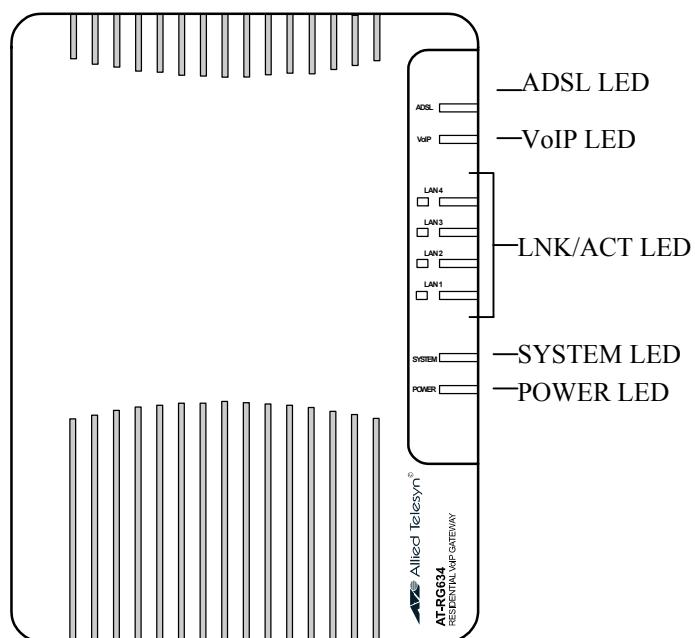


Figure 21: Top view AT-RG634



**Table 2: VoIP led indications RG634**

<b>Led</b>	<b>State</b>	<b>Function</b>
<b>VoIP</b>	Green light on	LED turns on green when you lift the receiver of the telephone or fax connected to at least one VoIP port and remains on during the call
	Green light flashing	The VoIP network is operating

**Table 3: ADSL led indications RG624/634**

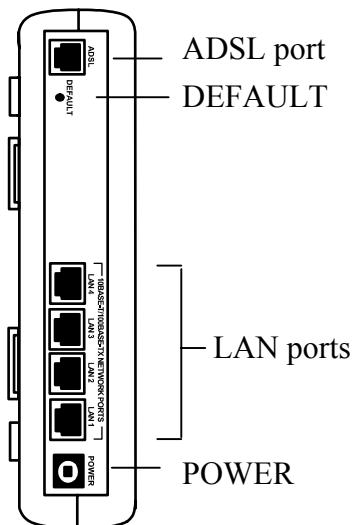
<b>Led</b>	<b>State</b>	<b>Function</b>
<b>ADSL</b>	Green light on	Link is up
	Green light off	Link is down
	Green light flashing	Traffic through the link

**Table 4: Ethernet Power/System led indications RG624/634**

<b>Led</b>	<b>State</b>	<b>Function</b>
<b>LNK/ACT/SPD</b>	Green light on	Establishment of the link as 10/100 BASE – TX
	Green light flashing	Transmission and Reception of packets as 10/100 BASE – TX
<b>SYSTEM</b>	Orange light on	An abnormal operating condition
	Orange light flashing	Power charging
	Orange light off	The system is working normally
<b>POWER</b>	Green light on	The device is receiving power and the voltage is within the acceptable range

## Rear view of unit

Figure 22: Back view AT-RG624



Back view AT-RG634

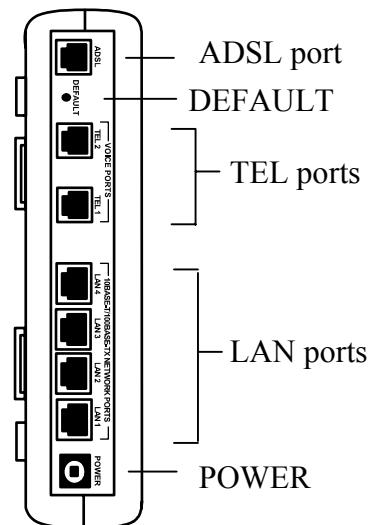


Table 5: Ports description

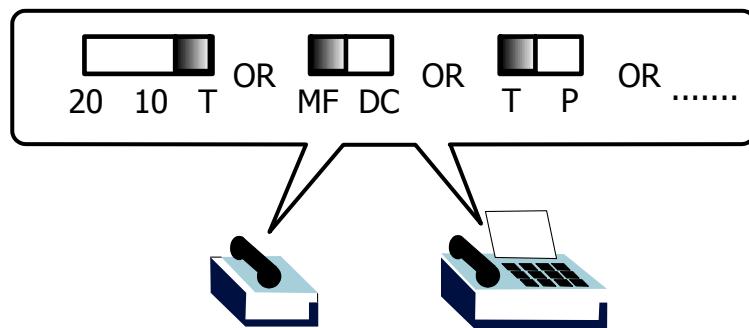
Port	Function
<b>TEL PORT (RG634)</b>	Connects analog telephone and fax with telephone cord
<b>DEFAULT</b>	Used to reset the unit; it causes the default configuration to be loaded with the static IP address value of 192.168.1.1. To reset, press the 'default' reset button through the 'default' hole. Then power the unit while keeping the button pressed. When all of the four LAN LEDs start blinking, wait another 3 seconds and then release the button.
<b>LAN PORT (MDI-X)</b>	Connects computer, HUB and switch with UTP cable
<b>ADSL PORT</b>	Connects UTP from the ADSL network terminator
<b>POWER CABLE</b>	Provides the 12V DC power to this product. This product doesn't have a power switch, you have to plug or unplug the power cable to turn the unit on or off

## 5. Telephones and cables

### POTS Telephone and Fax Operation (AT-RG634 only)

Check if the dial mode on your telephone/fax is set up for tone mode (T, Tone). If not, set the switch as shown below.

**Figure 23: Dial mode setting**



Note, as shown in the diagram, different models of phone are likely to have different labelling on this switch.



Some models do not have this switch or the possibility to set up the tone mode with a button. In this case please follow the instructions of the telephone and fax used.

## Telephone cord and UTP cable

There are 2 kinds of user connection cable: telephone cables and Unshielded Twisted Pair (UTP) cables used for data.  
See Below.



This product does not include any LAN or phone cables. These must be provided by the service provider or end user.

**Figure 24: Telephone cable**



Note: The telephone cable uses the RJ11 connector



**CAUTION: To reduce the risk of fire, use only No. 26AWG or larger telecommunication line cord.**

**Figure 25: LAN cable**



Use UTP cable category 3 or higher on 10Base-T, and UTP cable category 5 or higher on 100BASE-T.



There are two types of LAN cable, straight cable and crossed cable; for the AT-RG624/634, it does not matter which of these types of LAN cable you use. The LAN interfaces on the AT-RG624/634 can auto-sense whether the cable is straight or crossed.



If you buy a new cable, it is recommended that you choose UTP cable category 5 or higher.

## 6. Installing the AT-RG624/634

### Installation

Before installing the AT-RG624/634, please read the safety information “For your Safety” in Chapter 1.

When deciding the location of the device, please observe the following instructions:

- Do not install in direct sunlight, or a damp or dusty place
- Do not install on an inclined or unstable surface
- Do not cover air vents on the side or the back of the device
- Do not install near a TV, radio or mobile phone
- Do not place anything on top of the product
- Do not install this product outdoors
- Do not touch the connector terminals

### Wall Positioning

With the wall bracket in the package, you can hang the device on the wall. Before proceeding you will need to insure that the position chosen makes it possible to:

- Connect the UTP cables and AC power cable
- View the LED indications on the top of the unit

**You will need the following items to complete the installation of the device:**

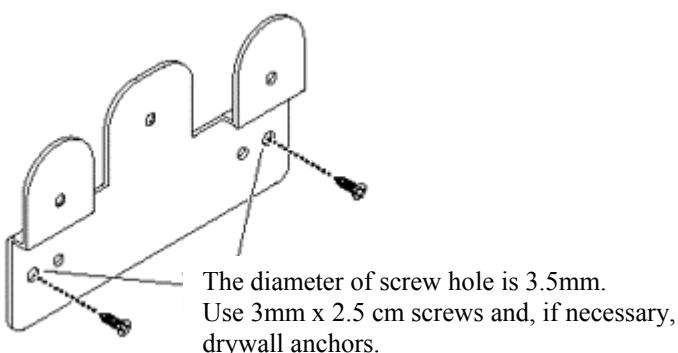
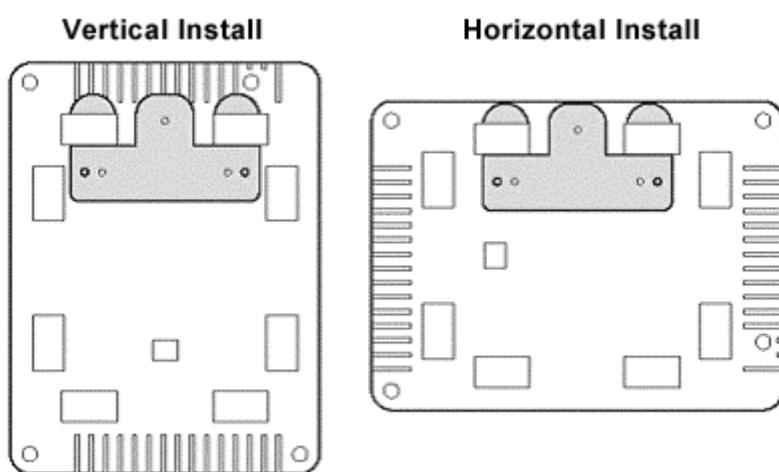
- Philips head screw driver
- 1 – 30 cm x 30cm (1 ft x 1 ft) square section of wall preferably covered with 2 cm plywood (if wall mounting the router)
- 3 – 3mm x 2.5 cm (1/8inch x 1 inch) screws
- 3 – 3 drywall anchors if mounting on drywall

**Provided in the installation kit:**

- 1 – RG624 or RG634
- 1 – Wall mount bracket

**Wall mounting the RG624/634:**

- Using the wall mount bracket as a template drive 3 drywall screws horizontally into the plywood towards the top and to either side of the available space. If plywood is not available, then use the wall mount bracket to mark the 3 hole locations and pre-drill for the drywall anchors, then drive the screws through the holes
- Hang the RG624/634 as described in Figure 27

**Figure 26: Positioning of the wall bracket****Figure 27: Possible layouts**

*If you install the device in an elevated position, ensure it is securely connected to the wall: if not, it may drop and cause injury or it may be damaged itself. Do not install where there may be vibrations, shocks or in an unsuitable place.*



*When you install this product on the wall it could be damaged if the unit should drop. Please be careful.*



*Please note that the maximum recommended operating ambient temperature is 40°C.*

## 7. Connecting the AT-RG624/634

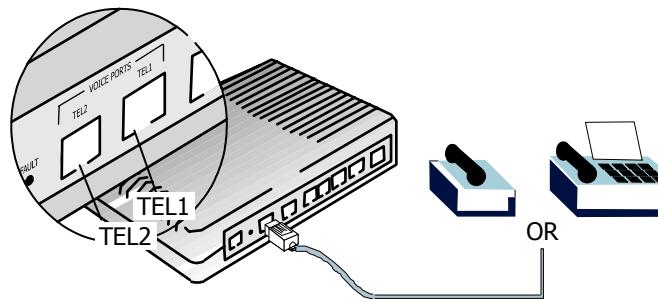
### Connecting the PSTN telephone ports (AT-RG634 only)

Connect PSTN (POTS) telephone and PSTN fax units to the TEL ports with the appropriate telephone cords. Push in the plug of the telephone cord to the TEL port until you hear a "click" and make sure it is correctly fixed by pulling the telephone cord lightly.



*Connect to TEL 1 port when you use only one telephone or fax machine.*

**Figure 28: Telephone ports connection**



Telephone cord ( min 26AWG )  
 Please refer to Chapter 5



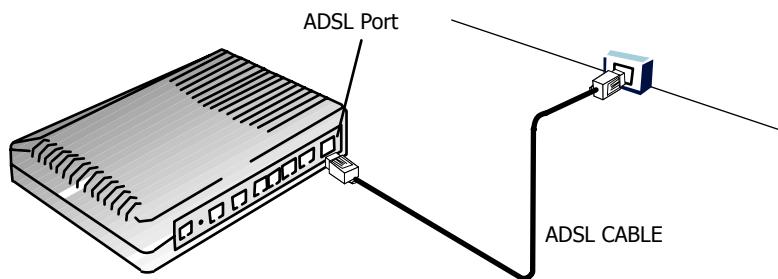
*The length of each TEL cables must be less than 100 m.*

## ADSL cable connection

To connect to the ADSL port with the UTP telephone cord follow the steps below:

- Ensure the cable is the right length to reach the terminator
- Plug the ADSL cable into the ADSL port until you hear a “click” and make sure it is correctly fixed by pulling the ADSL cable lightly. In the same way, connect the plug on the other end of the ADSL cable to the terminator
- If you only need VoIP functions (AT-RG634 only), your connection operation ends here. If you are connecting devices to the LAN port of this product, please follow the procedure as described in Figure 29 below

**Figure 29: UTP cable connections**

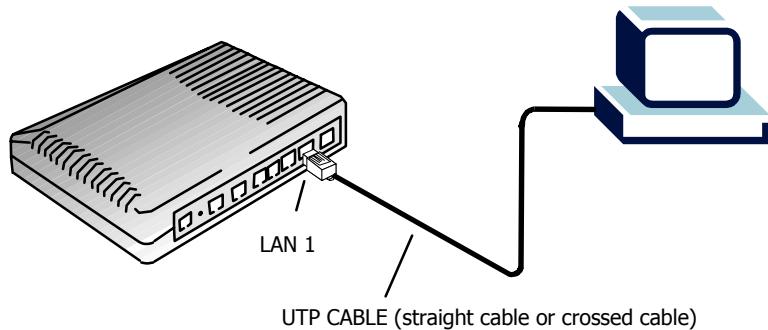


## LAN cable connection

To connect devices to the LAN ports using UTP cables follow the steps below:

- Ensure that all cables are the right length to reach each device
- Push in the plug of the UTP cable to the LAN port until you hear a “click” and make sure it is correctly fixed by pulling the UTP cable lightly. In the same way connect the plug on the other end of the UTP cable to the network interface card of the computer, or other LAN device

**Figure 30: UTP cable connections**

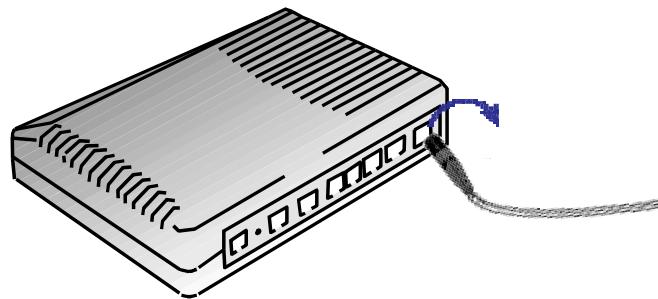


*The length of each LAN cables must be less than 100 m.*

## Disconnecting power supply

This product doesn't have a power switch; it automatically turns on when you connect the power cable. When you want to turn it off, just unplug the power plug.

**Figure 31: Power cable**



## Notice about functions and services (AT-RG634 only)

When using the VoIP telephony service there may be some services offered by the standard telephone network that are not available. Similarly, some telephone or fax functions may not be available on the VoIP network. Please contact your VoIP Telephony provider for further details.

# Appendix A: Troubleshooting

This Appendix describes some of the more common problems that may occur during AT-RG624/634 installation and use.

In the event of a problem, please look at the LED indications and then refer to this Appendix.

## LED indications

### 10BASE-T/100BASE-TX Port LED

This indicates the status of the 10BASE-T/100BASE-TX Port.

**Table 6: 10BASE-T/100BASE-TX Port led**

LED	Colour	Statement	Detail
<b>LNK/ACT</b>	Green	light on	Establishment of the link as 10/100 BASE – TX
		flash	Establishment of the link as 10/100 BASE – TX
		off	The link is not established

### STATUS LEDS

These indicate the status of the system.

**Table 7: Status leds**

LED	Colour	Statement	Detail
<b>SYSTEM</b>	Orange	light on	An abnormal operating condition
		off	The system is working normally
<b>POWER</b>	Green	light on	The device is receiving power and the voltage is within the acceptable range
		off	The device is not receiving power

**VoIP LED (AT-RG634 only)**

It indicates the status of telephone.

**Table 8: VoIP led**

LED	Colour	Statement	Detail
<b>VoIP</b>	Green	light on	LED light turns green when you lift the receiver of the telephone or fax connected to the VoIP ports or you make a call
		flash	VoIP network is available
		off	VoIP network is not available

**ADSL LED**

It indicates the status of ADSL link.

**Table 9: ADSL led**

LED	Colour	Statement	Detail
<b>ADSL</b>	Green	light on	The link is up
		flash	Traffic through the link
		off	The link is down

## Fault finding

■ **Is the POWER LED on?**

If the power LED is off please check if the power cable is not damaged, the power cable is correctly connected and you are using the plug with the correct power voltage.

Check if the AC plug of the power cable of the product is connected correctly. This product doesn't have a power switch. To turn the unit on or off you have to plug or unplug the power cable.

■ **Is the SYSTEM LED orange?**

If the SYSTEM LED lights up orange, unplug the AC plug and plug it in again after 20 seconds. If you do not resolve the problem, unplug the power plug of this product and contact your supplier

■ **Are the LNK/ACT/SPD LEDS on?**

Check if the power of the connected device is on, check that there are no problems with the network interface cards installed in the attached devices, also check if the cables are correctly connected to the network interface cards and that the correct cable is being used (i.e. straight or crossed).

Check also if the length of the cable is over the limit. UTP cable must be less than 100 m.

To connect this product to a computer, you must use a straight cable. To connect this product to a HUB or switch, you must use a crossed cable. Please check if you're using the correct cable.

■ **Do you have a problem with the UTP cable?**

Swap out with a known good cable.

■ **Does VoIP LED light up when you lift up the receiver? (AT-RG634 only)**

Please ensure that the telephone cable is connected correctly, that the correct cable is being used and that the cable is not damaged.

■ **Do you have a problem with the telephone cord (AT-RG634 only)?**

Swap out with a known good telephone cord.

Check if the setting of the dial mode for the telephone and fax is correct, follow the instructions of the telephone and/or fax device.

 *For further information on dial mode set up please refer to Chapter 5.*

Ensure that there is no problem with the telephone or fax machine.

# Appendix B: Technical Specifications

## AT-RG624 Product Specifications

### Supported standards

ANSI T1.413, ITV G.992.1, ITV G.992.3, ITV G.992.5  
 IEEE 802.3 10 BASE-T,  
 IEEE 802.3u 100 BASE-TX,  
 RFC 791, RFC1144, RFC1112, RFC2236, RFC 2516,  
 RFC 1334, RFC 1994, RFC 1631, RFC 2131,  
 RFC 3261, RFC 1350, RFC 318, RFC 826,  
 RTP/RTCP, H.323 4.0, MGCP/NCS 1.0, SNMP v1

### Interface

ADSL port	1 ADSL (6 pin RJ11 connector)
LAN port	4 10/100BASE-TX (8 pin RJ45 connector)

### Power

Input voltage	12V DC
AC Input current	0.5A (DC 12V)
Average power	6W (Max.8W)
Average heat	5kcal/h (Max. 6kcal/h)

### Environment condition

Storage Temperature	-20° – 40°C
Humidity	Less than 95% (non condensing)
Operating Temperature	0° – 40° C
Humidity	Less than 80% (non condensing)

### Size (with no projection)

200(W) x 150 (D) x48 (H) mm
-----------------------------

### Weight

440g
------

### MAC address table size

1,000 (Max.)
--------------

### Memory Capacity

RAM memory	16Mbyte
Flash memory	4Mbyte

### Product Certification

CE, FCC, UL
-------------

### Compliances

IEC60950, UL1950, EN 60950
EN55022, EN61000-3-2, EN61000-3-3, EN55024
FCC CFR 47 Part 15 Sub B

## AT-RG634 Product Specifications

### Supported standards

ANSI T1.413, ITV G.992.1, ITV G.992.3, ITV G.992.5
IEEE 802.3 10 BASE-T,
IEEE 802.3u 100 BASE-TX,
RFC 791, RFC1144, RFC1112, RFC2236, RFC 2516,
RFC 1334, RFC 1994, RFC 1631, RFC 2131,
RFC 3261, RFC 1350, RFC 318, RFC 826,
RTP/RTCP, H.323 4.0, MGCP/NCS 1.0, SNMP v1

### Interface

ADSL port	1 ADSL (6 pin RJ11 connector)
LAN port	4 10/100BASE-TX (8 pin RJ45 connector)
TEL port	2 FXS (6 pin RJ11 connector)

### Power

Input voltage	12V DC
AC Input current	0.8A (DC 12V)
Average power	9.6W (Max.12W)
Average heat	8.3kcal/h (Max. 8.4kcal/h)

### Environment condition

Storage Temperature	-20° – 40°C
Humidity	Less than 95% (non condensing)
Operating Temperature	0° – 40° C
Humidity	Less than 80% (non condensing)

### Size (with no projection)

200(W) x 150 (D) x48 (H) mm

### Weight

440g

### MAC address table size

1,000 (Max.)

### Memory Capacity

RAM memory	16Mbyte
Flash memory	4Mbyte

### Product Certification

CE, FCC, UL

### Compliances

IEC60950, UL1950, EN 60950

EN55022, EN61000-3-2, EN61000-3-3, EN55024

FCC CFR 47 Part 15 Sub B

## **Appendix C: Contact information**

In the event of any problem please contact your service provider or installer.